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1. [arXiv:2212.14592](#) [pdf, ps, other] physics.geo-ph doi [10.1785/0120210289](#)

Detection of slow slip events using wavelet analysis of GNSS recordings

Authors: [Ariane Ducellier](#), [Kenneth C. Creager](#), [David A. Schmidt](#)

Abstract: In many places, tectonic tremor is observed in relation to slow slip and can be used as a proxy to study slow slip events of moderate magnitude where surface deformation is hidden in Global Navigation Satellite System (GNSS) noise. However, when no clear relationship between tremor and slow slip occurrence is observed, these methods cannot be applied, and we need other methods to be able to better... [▼ More](#)

Submitted 30 December, 2022; originally announced December 2022.

Comments: This paper appeared in Bulletin of the Seismological Society of **America** 112 (5): 2408-2424

2. [arXiv:2212.12797](#) [pdf] econ.GN

New trends in South-South migration: The economic impact of COVID-19 and immigration enforcement

Authors: [Roxana Gutiérrez-Romero](#), [Nayeli Salgado](#)

Abstract: ...emigrants are fleeing poverty rather than violence. Our findings suggest that a reduction in violence alone will not be sufficient to reduce emigration flows from Central **America**, but that economic recovery is needed. [▼ More](#)

Submitted 24 December, 2022; originally announced December 2022.

3. [arXiv:2212.12007](#) [pdf, ps, other] cs.CY

Designing Equitable Transit Networks

Authors: [Sophie Pavia](#), [J. Carlos Martinez Mori](#), [Aryaman Sharma](#), [Philip Pugliese](#), [Abhishek Dubey](#), [Samitha Samaranayake](#), [Ayan Mukhopadhyay](#)

Abstract: ...between network design and various concepts of equity and present trade-offs and results based on real-world data from a large metropolitan area in the United States of **America**. [▼ More](#)

Submitted 22 December, 2022; originally announced December 2022.

4. [arXiv:2212.09989](#) [pdf, other] eess.SY

High Impedance Fault Detection Through Quasi-Static State Estimation: A Parameter Error Modeling Approach

Authors: [Austin Cooper](#), [Arturo Bretas](#), [Sean Meyn](#), [Newton G. Bretas](#)

Abstract: This paper presents a model for detecting high-impedance faults (HIFs) using parameter error modeling and a two-step per-phase weighted least squares state estimation (SE) process. The proposed scheme leverages the use of phasor

measurement units and synthetic measurements to identify per-phase power flow and injection measurements which indicate a parameter error through χ^2 Hypothesis Testing... [▼ More](#)

Submitted 19 December, 2022; originally announced December 2022.

Comments: Accepted for publication in 2023 IEEE ISGT North America. 5 pages, 6 figures

5. [arXiv:2212.09681](#) [[pdf](#), [other](#)] [stat.AP](#) [cs.CV](#) [cs.LG](#)

Annual field-scale maps of tall and short crops at the global scale using GEDI and Sentinel-2

Authors: [Stefania Di Tommaso](#), [Sherrie Wang](#), [Vivek Vajipey](#), [Noel Gorelick](#), [Rob Strey](#), [David B. Lobell](#)

Abstract: ...that GEDI-S2 performed nearly as well as models trained on thousands of local reference training points, with accuracies of at least 87% and often above 90% throughout the Americas, Europe, and East Asia. Systematic underestimation of tall crop area was observed in regions where crops frequently exhibit low biomass, namely Africa and South Asia, and further... [▼ More](#)

Submitted 19 December, 2022; originally announced December 2022.

6. [arXiv:2212.09674](#) [[pdf](#), [other](#)] [cs.CL](#)

LR-Sum: Summarization for Less-Resourced Languages

Authors: [Chester Palen-Michel](#), [Constantine Lignos](#)

Abstract: ...extracting and filtering the dataset from the Multilingual Open Text corpus (Palen-Michel et al., 2022). The source data is public domain newswire collected from Voice of America websites, and LR-Sum is released under a Creative Commons license (CC BY 4.0), making it one of the most openly-licensed multilingual summarization datasets. We describe how we... [▼ More](#)

Submitted 19 December, 2022; originally announced December 2022.

7. [arXiv:2212.08858](#) [[pdf](#), [other](#)] [physics.class-ph](#)

Characteristics of partially filled Helmholtz resonators

Authors: [M. V. Indenbom](#), [S. P. Pogossian](#)

Abstract: In this work we have developed a technique for the measurement of the resonance curve of Helmholtz resonators as a function of filling with beads and sands of different sizes, and water as the reference. Our measurements allowed us to observe very different behaviors of resonance frequencies and resonance half-widths as a function of the size of the sand grains and the beads. By comparing results... [▼ More](#)

Submitted 17 December, 2022; originally announced December 2022.

Comments: 10 pages, one column, 9 figures, regular paper

Journal ref: Journal of the Acoustical Society of America, 2022

8. [arXiv:2212.08323](#) [[pdf](#), [ps](#), [other](#)] [q-bio.PE](#) [cs.CY](#) [cs.LG](#)

An ensemble neural network approach to forecast Dengue outbreak based on climatic condition

Authors: [Madhurima Panja](#), [Tanujit Chakraborty](#), [Sk Shahid Nadim](#), [Indrajit Ghosh](#), [Uttam Kumar](#), [Nan Liu](#)

Abstract: Dengue fever is a virulent disease spreading over 100 tropical and subtropical countries in Africa, the Americas, and Asia. This arboviral disease affects around 400 million people globally, severely distressing the healthcare systems. The unavailability of a specific drug and ready-to-use vaccine makes the situation worse. Hence, policymakers must rely on e... [▼ More](#)

Submitted 19 December, 2022; v1 submitted 16 December, 2022; originally announced December 2022.

9. [arXiv:2212.08054](#) [[pdf](#), [other](#)] [cs.CL](#) [cs.LG](#)

DAMP: Doubly Aligned Multilingual Parser for Task-Oriented Dialogue

Authors: [William Held](#), [Christopher Hidey](#), [Fei Liu](#), [Eric Zhu](#), [Rahul Goel](#), [Diyi Yang](#), [Rushin Shah](#)

Abstract: ...demonstrated that semantic parsing is a difficult multilingual transfer task with low transfer efficiency compared to other tasks. In global markets such as India and Latin America, this is a critical issue as switching between languages is prevalent for bilingual users. In this work we dramatically improve the zero-shot performance of a multilingual and cod... [▼ More](#)

Submitted 15 December, 2022; originally announced December 2022.

10. [arXiv:2212.07863](#) [[pdf](#)] [astro-ph.IM](#) [astro-ph.EP](#)

Trends in Planetary Science research in the Puna and Atacama desert regions: under-representation of local scientific institutions?

Authors: [Adrien Tavernier](#), [Gabriel Pinto](#), [Millarca Valenzuela](#), [Ayon Garcia](#), [Christopher Ulloa](#), [Romulo Osés](#), [Bernard Foing](#)

Abstract: ...analogues and space exploration in Chile or astrobiology in Mexico are given as illustrations and possible directions to follow in order to develop planetary sciences in South America. [▼ More](#)

Submitted 15 December, 2022; originally announced December 2022.

11. [arXiv:2212.07375](#) [[pdf](#), [other](#)] [cs.DC](#)

Studying the workload of a fully decentralized Web3 system: IPFS

Authors: [Pedro Ákos Costa](#), [João Leitão](#), [Yannis Psaras](#)

Abstract: ...workload of IPFS, a key enabler of Web3. To achieve this, we have collected traces from accesses performed by users to one of the most popular IPFS gateways located in North **America** for a period of two weeks. Through the fine analysis of these traces, we gathered the amount of requests to the system, and found the providers of the requested content. With thi... [▽ More](#)

Submitted 14 December, 2022; **originally announced** December 2022.

12. [arXiv:2212.06780](#) [[pdf](#), [other](#)] [physics.data-an](#) [nlin.AO](#) [physics.app-ph](#) [physics.comp-ph](#) [physics.soc-ph](#)

Estimating tipping risk factors in complex systems with application to power outage data

Authors: [Martin Heßler](#), [Oliver Kamps](#)

Abstract: ...series with different destabilisation-noise scenarios as a proof of concept and two bus voltage frequency time series of the power outage at the 10th August 1996 of the North **America** Western Interconnection in which the method hints at a rather complex interplay of changing resilience and noise influence. [▽ More](#)

Submitted 13 December, 2022; **originally announced** December 2022.

Comments: 14 pages, 4 figures. Supplementary material available

13. [arXiv:2212.05118](#) [[pdf](#), [other](#)] [astro-ph.IM](#) [astro-ph.HE](#)

Millimeter/submillimeter VLBI with a Next Generation Large Radio Telescope in the Atacama Desert

Authors: [Kazunori Akiyama](#), [Jens Kauffmann](#), [Lynn D. Matthews](#), [Kotaro Moriyama](#), [Shoko Koyama](#), [Kazuhiro Hada](#)

Abstract: ...cases of ngEHT. In addition to ngEHT, its unique location in Chile will substantially improve angular resolutions of the planned Next Generation Very Large Array in North **America** or any future global millimeter VLBI arrays if combined. LST and AtLAST will be a key element enabling transformative science cases with next-generation millimeter/submillimeter VLB... [▽ More](#)

Submitted 19 December, 2022; v1 submitted 9 December, 2022; **originally announced** December 2022.

Comments: 8 pages, 1 figure, a ngEHT white paper, accepted for publication in the Galaxies Special Issue "From Vision to Instrument: Creating a Next-Generation Event Horizon Telescope for a New Era of Black Hole Science"

14. [arXiv:2212.03662](#) [[pdf](#), [other](#)] [math.OC](#)

An Optimization Framework for Efficient and Sustainable Logistics Operations via Transportation Mode Optimization and Shipment Consolidation: A Case Study for GE Gas Power

Authors: [Mustafa C. Camur](#), [Srinivas Bollapragada](#), [Aristotelis E. Thanos](#), [Onur Dulgeroglu](#), [Banu Gemici-Ozkan](#)

Abstract: ...size. To handle larger sized problems, we develop a novel heuristic algorithm with a rolling time horizon. The overall solution is used for all shipments from China to North **America** and is expected to scale for all global shipments in 2023. We humbly believe that our work introduces a novel problem to the literature that might be of interest to both industry... [▽ More](#)

Submitted 7 December, 2022; **originally announced** December 2022.

15. [arXiv:2212.02616](#) [[pdf](#), [other](#)] [eess.AS](#) [cs.SD](#) [eess.SP](#) [physics.class-ph](#)

Standard sound emergence as a predictor of short-term annoyance from wind turbine noise

Authors: [Elise Ruaud](#), [Guillaume Dutilleux](#)

Abstract: While sound emergence is used in several countries to regulate wind energy development, there is no published evidence that it is a relevant noise descriptor for this purpose. In the present work, we carried out two listening tests to evaluate the merits of sound emergence. Three definitions of sound emergence were considered: the one in ISO 1996-1, sound emergence under audibility condition... [▽ More](#)

Submitted 5 December, 2022; **originally announced** December 2022.

Comments: Submitted to the Journal or the Acoustical Society of **America**. 17 pages, 8 figures, 3 tables

16. [arXiv:2212.01295](#) [[pdf](#), [ps](#), [other](#)] [astro-ph.IM](#) [astro-ph.GA](#) [physics.soc-ph](#) [doi](#) [10.3847/25c2feb.82094b99](#)

Which countries are leading high-impact science in astronomy?

Authors: [Juan P. Madrid](#)

Abstract: ...by a large margin, the authors that lead high-impact papers. Moreover, this analysis shows that 90% of all high-impact papers in astronomy are led by authors based in North **America** and Europe. That is, only about 10% of countries in the world host astronomers that publish "astronomy's greatest hits". [▽ More](#)

Submitted 2 December, 2022; **originally announced** December 2022.

Journal ref: 2022, Bulletin of the American Astronomical Society, Vol. 54, Issue 1

17. [arXiv:2212.00582](#) [[pdf](#), [other](#)] [cs.DC](#) [cs.AI](#) [cs.LG](#)

Understanding the Energy Consumption of HPC Scale Artificial Intelligence

Authors: [Danilo Carastan dos Santos](#)

Abstract: This paper contributes towards better understanding the energy consumption trade-offs of HPC scale Artificial Intelligence (AI), and more specifically Deep Learning (DL) algorithms. For this task we developed benchmark-tracker, a benchmark tool to evaluate the speed and energy consumption of DL algorithms in HPC environments. We exploited hardware counters and Python libraries to collect energy in... [▽ More](#)

Submitted 14 November, 2022; **originally announced** December 2022.

Journal ref: Latin **America** High Performance Computing Conference (CARLA 2022), Sep 2022, Porto Alegre, Brazil

18. [arXiv:2211.17066](#) [[pdf](#), [other](#)] [stat.ME](#) [stat.AP](#)

Operationalizing Legislative Bodies: A Methodological and Empirical Perspective

Authors: [Carolina Luque](#), [Juan Sosa](#)

Abstract: ...extensions, and models derived from the Bayesian ideal point estimator. We primarily focus our attention on studies conducted in the United States as well as Latin **America**. First, we provide a detailed description of the Bayesian ideal point estimator. Next, we propose a new taxonomy to synthesize and frame technical developments and applications associated... [▽ More](#)

Submitted 30 November, 2022; **originally announced** November 2022.

19. [arXiv:2211.14122](#) [[pdf](#)] [eess.IV](#) [cs.CV](#) [cs.LG](#)

Automating Cobb Angle Measurement for Adolescent Idiopathic Scoliosis using Instance Segmentation

Authors: [Chaojun Chen](#), [Khashayar Namdar](#), [Yujie Wu](#), [Shahob Hosseinpour](#), [Manohar Shroff](#), [Andrea S. Doria](#), [Farzad Khalvati](#)

Abstract: ...is a three-dimensional deformity of the spine, most often diagnosed in childhood. It affects 2-3% of the population, which is approximately seven million people in North **America**. Currently, the reference standard for assessing scoliosis is based on the manual assignment of Cobb angles at the site of the curvature center. This manual process is time consuming... [▽ More](#)

Submitted 25 November, 2022; **originally announced** November 2022.

20. [arXiv:2211.13052](#) [[pdf](#), [other](#)] [physics.ao-ph](#) [cs.LG](#) [stat.ML](#)

Pyrocast: a Machine Learning Pipeline to Forecast Pyrocumulonimbus (PyroCb) Clouds

Authors: [Kenza Tazi](#), [Emiliano Díaz Salas-Porras](#), [Ashwin Braude](#), [Daniel Okoh](#), [Kara D. Lamb](#), [Duncan Watson-Parris](#), [Paula Harder](#), [Nis Meinert](#)

Abstract: ...a pyroCb database and a pyroCb forecast model, are presented. The database brings together geostationary imagery and environmental data for over 148 pyroCb events across North **America**, Australia, and Russia between 2018 and 2022. Random Forests, Convolutional Neural Networks (CNNs), and CNNs pretrained with Auto-Encoders were tested to predict the generation... [▽ More](#)

Submitted 22 November, 2022; **originally announced** November 2022.

Comments: 5 pages, 2 figures, Tackling Climate Change with Machine Learning: workshop at NeurIPS 2022

21. [arXiv:2211.07574](#) [physics.ao-ph](#) [physics.data-an](#)

An Introduction to PM2.5s, their Importance, and a Cluster Methodology to Analyze their Meteorological Dynamics

Authors: [Rickie Xian](#), [Dylan Jones](#)

Abstract: ...they circulate on a larger scale due to atmospheric circulation patterns. Though government-enacted air quality measures have reduced the average PM2.5 levels in North **America**, pollution episodes still cause localized, acute PM2.5 exposure. The purpose of this project was to analyze PM2.5 mean concentration across... [▽ More](#)

Submitted 16 December, 2022; **v1** submitted 11 November, 2022; **originally announced** November 2022.

Comments: Withdrawn because it was submitted without consent of the co-author

MSC Class: I.2.7 ACM Class: A.1.1

22. [arXiv:2211.06326](#) [[pdf](#)] [cs.CY](#)

Bad, mad and cooked apples: Responsibility for unlawful targeting in human-AI military teams

Authors: [Susannah Kate Devitt](#)

Abstract: ...on a metaphor from Neta Crawford's chapter, When Soldiers Snap: Bad Apples and Mad Apples, in Accountability for Killing: Moral responsibility for collateral damage in **America's** post 911 wars. This paper contends that although militaries may have some bad apples responsible for war crimes and some mad apples unable to be responsible for their actions... [▽ More](#)

Submitted 31 October, 2022; **originally announced** November 2022.

23. [arXiv:2211.05824](#) [[pdf](#), [other](#)] [cs.CR](#) [cs.HC](#)

No Privacy in the Electronics Repair Industry

Authors: [Jason Ceci](#), [Jonah Stegman](#), [Hassan Khan](#)

Abstract: Electronics repair and service providers offer a range of services to computing device owners across North **America** -- from software installation to hardware repair. Device owners obtain these services and leave their device along with their access credentials at the mercy of technicians, which leads to privacy concerns for owners' personal data. We condu... [▼ More](#)

Submitted 10 November, 2022; **originally announced** November 2022.

Comments: This paper has been accepted to appear at the 44th IEEE Symposium on Security and Privacy (IEEE S&P 2023)

24. [arXiv:2211.03923](#) [[pdf](#), [other](#)] [cs.CL](#) [cs.IR](#) [cs.LG](#)

Proactive Detractor Detection Framework Based on Message-Wise Sentiment Analysis Over Customer Support Interactions

Authors: [Juan Sebastián Salcedo Gallo](#), [Jesús Solano](#), [Javier Hernán García](#), [David Zarruk-Valencia](#), [Alejandro Correa-Bahnsen](#)

Abstract: ...For our case study, we analyzed a total number of 16.4k users and 48.7k customer support conversations within the financial vertical of a large e-commerce company in Latin **America**. Consequently, our main contributions and objectives are to use Natural Language Processing (NLP) to assess and predict the recommendation behavior where, in addition to using sta... [▼ More](#)

Submitted 7 November, 2022; **originally announced** November 2022.

Comments: 10 pages, 4 figures, 1 table. Already accepted at NeurIPS 2022, LatinX in AI Workshop

25. [arXiv:2211.03906](#) [[pdf](#), [other](#)] [physics.ao-ph](#)

Learned 1-D advection solver to accelerate air quality modeling

Authors: [Manho Park](#), [Zhonghua Zheng](#), [Nicole Riemer](#), [Christopher W. Tessum](#)

Abstract: ...N within North **America**. The trained model with coarse-graining showed good accuracy overall, but instability occurred in a few cases. Our approach achieved up to 12.5× acceleration. The learned schemes also showed fair results in generalization tests. [▼ More](#)

Submitted 7 November, 2022; **originally announced** November 2022.

Comments: Accepted as a workshop paper at the The Symbiosis of Deep Learning and Differential Equations (DLDE) - II in the 36th Conference on Neural Information Processing Systems (NeurIPS 2022)

26. [arXiv:2211.03647](#) [[pdf](#), [other](#)] [physics.geo-ph](#) [physics.comp-ph](#)

Numerical simulations of seismo-acoustic nuisance patterns from an induced M1.8 earthquake in the Helsinki, southern Finland, metropolitan area

Authors: [Lukas Krenz](#), [Sebastian Wolf](#), [Gregor Hillers](#), [Alice-Agnes Gabriel](#), [Michael Bader](#)

Abstract: Irritating earthquake sounds, reported also at low ground shaking levels, can negatively impact the social acceptance of geo-engineering applications. Concurrently, earthquake sound patterns have been linked to faulting mechanisms, thus opening possibilities for earthquake source characterisation. Inspired by consistent reports of felt and heard disturbances associated with the weeks-long stimulatio... [▼ More](#)

Submitted 7 November, 2022; **originally announced** November 2022.

Comments: 29 pages, 9 figures. This paper has been submitted to the Bulletin of the Seismological Society of **America** for publication

27. [arXiv:2211.01936](#) [[pdf](#), [other](#)] [physics.soc-ph](#) [cs.DL](#) [physics.data-an](#)

Differences in collaboration structures and impact among prominent researchers in Europe and North **America**

Authors: [Lluís Danus](#), [Carles Muntaner](#), [Alexander Krauss](#), [Marta Sales-Pardo](#), [Roger Guimera](#)

Abstract: ...networks and impact should also differ systematically across regions. To test this, we compare the structure of collaboration networks among prominent researchers in North **America** and Europe. We find that prominent researchers in Europe establish denser collaboration networks, whereas those in North-... [▼ More](#)

Submitted 3 November, 2022; **originally announced** November 2022.

28. [arXiv:2211.00644](#) [[pdf](#)] [eess.IV](#) [cs.CV](#)

minoHealth.ai: A Clinical Evaluation Of Deep Learning Systems For the Diagnosis of Pleural Effusion and Cardiomegaly In Ghana, Vietnam and the United States of **America**

Authors: [Darlington Akogo](#), [Benjamin Dabo Sarkodie](#), [Issah Abubakari Samori](#), [Bashiru Babatunde Jimah](#), [Dorothea Akosua Anim](#), [Yaw Boateng Mensah](#)

Abstract: A rapid and accurate diagnosis of cardiomegaly and pleural effusion is of the utmost importance to reduce mortality and medical costs. Artificial Intelligence has shown promise in diagnosing medical conditions. With this study, we seek to evaluate how well Artificial Intelligence (AI) systems, developed by minoHealth AI Labs, will perform at diagnosing cardiomegaly and pleural effusion, using chest X-rays. [▼ More](#)

Submitted 5 November, 2022; v1 submitted 31 October, 2022; originally announced November 2022.

29. [arXiv:2210.17290](#) [[pdf](#), [other](#)] [astro-ph.IM](#) [physics.optics](#)

Image-Plane Self-Calibration in Interferometry

Authors: [C. L. Carilli](#), [B. Nikolic](#), [N. Thyagarajan](#)

Abstract: We develop a new process of image plane self-calibration for interferometric imaging data. The process is based on Shape-Orientation-Size (SOS) conservation for the principal triangle in an image generated from the three fringes made from a triad of receiving elements, in situations where interferometric phase errors can be factorized into element-based terms. The basis of the SOS conservation principle is... [▼ More](#)

Submitted 27 October, 2022; originally announced October 2022.

Comments: 17 pages 4 figures. To appear in Journal Optical Society of America - A

30. [arXiv:2210.16155](#) [[pdf](#), [other](#)] [econ.GN](#)

"Rust Belt" Across America: An Application of a Nationwide, Block-Group-Level Deprivation Index

Authors: [Scott W Hegerty](#)

Abstract: In the United States, large post-industrial cities such as Detroit are well-known for high levels of socioeconomic deprivation. But while Detroit is an exceptional case, similar levels of deprivation can still be found in other large cities, as well as in smaller towns and rural areas. This study calculates a standardized measure for all block groups in the lower 48 states and DC, before isolating... [▼ More](#)

Submitted 28 October, 2022; originally announced October 2022.

31. [arXiv:2210.14424](#) [[pdf](#), [other](#)] [cs.CL](#)

Geographic Citation Gaps in NLP Research

Authors: [Mukund Rungta](#), [Janvijay Singh](#), [Saif M. Mohammad](#), [Diyi Yang](#)

Abstract: ...researchers that a vast number of papers accepted at top NLP venues come from a handful of western countries and (lately) China; whereas, very few papers from Africa and South America get published. Similar disparities are also believed to exist for paper citation counts. In the spirit of "what we do not measure, we cannot improve", this work asks a... [▼ More](#)

Submitted 25 October, 2022; originally announced October 2022.

Comments: EMNLP 2022 Main Conference

32. [arXiv:2210.13293](#) [[pdf](#), [other](#)] [physics.class-ph](#)

Theoretical and numerical modeling of Rayleigh wave scattering by an elastic inclusion

Authors: [Shan Li](#), [Ming Huang](#), [Yongfeng Song](#), [Bo Lan](#), [Xiongbing Li](#)

Abstract: This work presents theoretical and numerical models for the backscattering of two-dimensional Rayleigh waves by an elastic inclusion, with the host material being isotropic and the inclusion having arbitrary shape and crystallographic symmetry. The theoretical model is developed based on the reciprocity theorem using the far-field Green's function and the Born approximation, assuming a small acoustic... [▼ More](#)

Submitted 24 October, 2022; originally announced October 2022.

Comments: 25 pages, 8 figures. The article has been submitted to The Journal of the Acoustical Society of America. After it is published, it will be found at <https://asa.scitation.org/journal/jas>

33. [arXiv:2210.10888](#) [[pdf](#)] [cs.LG](#) [cs.AI](#) [q-bio.PE](#)

Deep Learning-Derived Optimal Aviation Strategies to Control Pandemics

Authors: [Syed Rizvi](#), [Akash Awasthi](#), [Maria J. Peláez](#), [Zhihui Wang](#), [Vittorio Cristini](#), [Hien Van Nguyen](#), [Prashant Dogra](#)

Abstract: ...evolution of the pandemic, we conducted local sensitivity analysis on our model through node perturbation experiments. From our analyses, we identified Western Europe, North America, and Middle East as the leading geographical locations fueling the pandemic, attributed to the enormity of air traffic originating or transiting through these regions. We used these findings to... [▼ More](#)

Submitted 12 October, 2022; originally announced October 2022.

Comments: 32 pages, 6 figures (with additional 9 supplementary figures)

34. [arXiv:2210.10381](#) [[pdf](#), [other](#)] [physics.geo-ph](#)

How does thermal pressurization of pore fluids affect 3D strike-slip earthquake dynamics and ground motions?

Authors: [Jagdish Chandra Vyas](#), [Alice-Agnes Gabriel](#), [Thomas Ulrich](#), [Paul Martin Mai](#), [Jean-Paul Ampuero](#)

Abstract: Frictional heat during earthquake rupture raises the pressure of fault zone fluids and affects the rupture process and its seismic radiation. Here, we investigate the role of two key parameters governing thermal-pressurization of pore fluids - hydraulic diffusivity and shear-zone half-width -- on earthquake rupture dynamics, kinematic source properties and ground-motions. We conduct 3D strike-sli... [▼ More](#)

Submitted 19 October, 2022; **originally announced** October 2022.

Comments: This paper has been submitted to the Bulletin of the Seismological Society of **America** for publication

35. [arXiv:2210.03933](#) [[pdf](#), [other](#)] [stat.ME](#) [math.ST](#)

Inverse set estimation and inversion of simultaneous confidence intervals

Authors: [Junting Ren](#), [Fabian J. E. Telschow](#), [Armin Schwartzman](#)

Abstract: ...constructed with the desired confidence non-asymptotically. The method is illustrated on dense functional data to determine regions with rising temperatures in North **America** and on logistic regression data to assess the effect of statin and COVID-19 on clinical outcomes of in-patients. [▼ More](#)

Submitted 8 October, 2022; **originally announced** October 2022.

36. [arXiv:2210.02516](#) [[pdf](#), [other](#)] [cs.LG](#) [cs.CY](#) [doi](#) [10.1145/3514094.3534154](#)

Equalizing Credit Opportunity in Algorithms: Aligning Algorithmic Fairness Research with U.S. Fair Lending Regulation

Authors: [I. Elizabeth Kumar](#), [Keegan E. Hines](#), [John P. Dickerson](#)

Abstract: Credit is an essential component of financial wellbeing in **America**, and unequal access to it is a large factor in the economic disparities between demographic groups that exist today. Today, machine learning algorithms, sometimes trained on alternative data, are increasingly being used to determine access to credit, yet research has shown that machine learni...

[▼ More](#)

Submitted 5 October, 2022; **originally announced** October 2022.

Journal ref: AIES '22: Proceedings of the 2022 AAAI/ACM Conference on AI, Ethics, and Society

37. [arXiv:2210.01490](#) [[pdf](#), [other](#)] [physics.ins-det](#)

Gain and phase calibration of sensor arrays from ambient noise by cross-spectral measurements fitting

Authors: [Charles Vanwynsberghe](#), [Simon Bouley](#), [Jérôme Antoni](#)

Abstract: We address the problem of blind gain and phase calibration of a sensor array from ambient noise. The key motivation is to ease the calibration process by avoiding a complex procedure setup. We show that computing the sample covariance matrix in a diffuse field is sufficient to recover the complex gains. To do so, we formulate a non-convex least-square problem based on sample and model covariances.... [▼ More](#)

Submitted 4 October, 2022; **originally announced** October 2022.

Comments: submitted to the Journal of the Acoustical Society of **America**

38. [arXiv:2209.15096](#) [[pdf](#), [other](#)] [physics.ao-ph](#) [cs.CV](#)

AICCA: AI-driven Cloud Classification Atlas

Authors: [Takuya Kurihana](#), [Elisabeth Moyer](#), [Ian Foster](#)

Abstract: ...that employ spatial information and result in distinct geographic distributions, capturing, for example, stratocumulus decks along the West coasts of North and South **America**. AICCA delivers the information in multi-spectral images in a compact form, enables data-driven diagnosis of patterns of cloud organization, provides insight into cloud evolution on time... [▼ More](#)

Submitted 12 November, 2022; **v1** submitted 29 September, 2022; **originally announced** September 2022.

Comments: 27 pages, 11 figures, MDPI Remote Sensing Special Issue "AI for Marine, Ocean and Climate Change Monitoring"

39. [arXiv:2209.11857](#) [[pdf](#), [other](#)] [cs.CR](#)

Analysis of the new standard hash function

Authors: [F Martín-Fernández](#), [P Caballero-Gil](#)

Abstract: ...October 2012 the NIST (National Institute of Standards and Technology) in the United States of **America** announced the new hashing algorithm which will be adopted as standard from now on. Among a total of 73 candidates, the winner was Keccak, designed by a group of cryptographers from Belgium and Italy. The public selection of a new standard of cryptographic... [▼ More](#)

Submitted 23 September, 2022; **originally announced** September 2022.

Journal ref: International Conference on Computer Aided Systems Theory, 142-149, 2013

40. [arXiv:2209.07703](#) [[pdf](#)] [astro-ph.SR](#) [astro-ph.HE](#) [physics.space-ph](#)

Analyses of Flight Time During Solar Proton Events and Solar Flares

Authors: [X. H. Xu](#), [Y. Wang](#), [F. S. Wei](#), [X. S. Feng](#), [M. H. Bo](#), [H. W. Tang](#), [D. S. Wang](#), [B. Lei](#), [B. Y. Wang](#), [P. B. Zuo](#), [C. W. Jiang](#), [X. J. Xu](#), [Z. L. Zhou](#), [Z. Li](#), [P. Zou](#), [L. D. Wang](#), [Y. X. Gu](#), [Y. L. Chen](#), [W. Y. Zhang](#), [P. Sun](#)

Abstract: ...of such phenomenon that the directional differences in flight time are still incontrovertible regardless of over-land routes (China-Europe) or over-sea routes (China-Western **America**). Further analyses suggest that the solar proton events associated atmospheric heating will change the flight durations by weakening certain atmospheric circulations, such as the...

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Submitted 15 September, 2022; **originally announced** September 2022.

Comments: submitted to Scientific Reports

41. [arXiv:2209.06290](#) [[pdf](#), [other](#)] [physics.ao-ph](#) [math.DS](#) [math.PR](#) [nlin.CD](#)

Dynamical geography and transition paths of Sargassum in the tropical Atlantic

Authors: [F. J. Beron-Vera](#), [M. J. Olascoaga](#), [N. Putman](#), [J. Trinanés](#), [G. J. Goni](#), [R. Lumpkin](#)

Abstract: ...also the upwelling system off the northern coast of west Africa. This represents a data-based inference of potential remote sources of Sargassum recurrently invading the Intra-**Americas** Seas (IAS). By further applying Transition Path Theory (TPT) on the data-derived Markov chain model, two potential pathways for Sargassum into the IAS from the upwelling syste...

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Submitted 13 September, 2022; **originally announced** September 2022.

Comments: To appear in AIP Advances

42. [arXiv:2209.04203](#) [[pdf](#)] [cs.CV](#)

An Indian Roads Dataset for Supported and Suspended Traffic Lights Detection

Authors: [Sarita Gautam](#), [Anuj Kumar](#)

Abstract: Autonomous vehicles are growing rapidly, in well-developed nations like **America**, Europe, and China. Tech giants like Google, Tesla, Audi, BMW, and Mercedes are building highly efficient self-driving vehicles. However, the technology is still not mainstream for developing nations like India, Thailand, Africa, etc., In this paper, we present a thorough compari...

[▽ More](#)

Submitted 9 September, 2022; **originally announced** September 2022.

43. [arXiv:2209.04129](#) [[pdf](#)] [cs.NI](#)

A Worldwide Look Into Mobile Access Networks Through the Eyes of AmiGos

Authors: [Matteo Varvello](#), [Yasir Zaki](#)

Abstract: ...chance of encountering a low data rate, b) only 20% of mobile networks are characterized by low latencies (<20ms to popular domains), c) networks across Asia, central/south **America**, and Africa have much higher CDN download times compared to Europe, exceeding a 10x increase in the case of Africa, d) most news websites load slowly, whereas YouTube achieves...

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Submitted 9 September, 2022; **originally announced** September 2022.

Comments: 19 pages, 17 figures

44. [arXiv:2209.03073](#) [[pdf](#)] [cs.CR](#)

State of Security Awareness in the AM Industry: 2020 Survey

Authors: [Mark Yampolskiy](#), [Paul Bates](#), [Mohsen Seifi](#), [Nima Shamsaei](#)

Abstract: ...AM community focused on manufacturing and AM Security community focused on securing this highly computerized manufacturing technology. To bridge this gap, we surveyed the **America** Makes AM community, asking in total eleven AM security-related questions aiming to discover the existing concerns, posture, and expectations. The first set of questions aimed to dis...

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Submitted 7 September, 2022; **originally announced** September 2022.

Comments: The material was presented at ASTM ICAM 2021 and a publication was accepted for publication as a Selected Technical Papers (STP)

45. [arXiv:2209.00792](#) [[pdf](#), [other](#)] [stat.AP](#) [eess.SY](#)

A Bayesian Approach to Probabilistic Solar Irradiance Forecasting

Authors: [Kwasi Opoku](#), [Svetlana Lucemo](#), [Qun Zhou Sun](#), [Aleksandar Dimitrovski](#)

Abstract: The output of solar power generation is significantly dependent on the available solar radiation. Thus, with the proliferation of PV generation in the modern power grid, forecasting of solar irradiance is vital for proper operation of the grid. To achieve an improved accuracy in prediction performance, this paper discusses a Bayesian treatment of probabilistic forecasting. The approach is demonstr...

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Submitted 1 September, 2022; **originally announced** September 2022.

Comments: 2022 North **America** Power Symposium (NAPS)

46. [arXiv:2208.14887](#) [[pdf](#)] [physics.soc-ph](#)

Global GIS-based potential analysis and cost assessment of Power-to-X fuels in 2050

Authors: [Maximilian Pfennig](#), [Diana Böttger](#), [Benedikt Häckner](#), [David Geiger](#), [Christoph Zink](#), [André Bisevic](#), [Lukas Jansen](#)

Abstract: ...are in the United States, Australia and Argentina. The production costs vary a lot across the different regions. The lowest production costs for PtX generation are in Latin **America** (Chile, Argentina and Venezuela) and Mauritania with a lower limit of 42.3 EUR/MWh to 46.5 EUR/MWh for gaseous hydrogen and 84 EUR/MWh to 89.1 EUR/MWh for Fischer-Tropsch fuels. A... [▼ More](#)

Submitted 31 August, 2022; **originally announced** August 2022.

47. [arXiv:2208.12608](#) [[pdf](#), [other](#)] [cs.CY](#) [cs.AI](#) [cs.CL](#)

Getting Quechua Closer to Final Users through Knowledge Graphs

Authors: [Elwin Huaman](#), [Jorge Luis Huaman](#), [Wendi Huaman](#)

Abstract: Quechua language and Quechua knowledge gather millions of people around the world, especially in several countries in South **America**. Unfortunately, there are only a few resources available to Quechua communities, and they are mainly stored in PDF format. In this paper, the Quechua Knowledge Graph is envisioned and generated as an effort to get Quechua closer... [▼ More](#)

Submitted 22 September, 2022; **v1** submitted 17 August, 2022; **originally announced** August 2022.

Comments: 9 pages, 4 figures, 1 table, submitted to The 9th International Conference on Information Management and Big Data (SIMBig 2022)

48. [arXiv:2208.12092](#) [[pdf](#), [other](#)] [stat.ME](#)

Teleconnected warm and cold extremes of North American wintertime temperatures

Authors: [Mitchell L. Krock](#), [Adam H. Monahan](#), [Michael L. Stein](#)

Abstract: ...in North **America**, where very low temperatures in the contiguous United States (CONUS) may coincide with very high temperatures in Alaska in the wintertime. This dependence between warm and cold extremes motivates the need for a model with opposite-tail dependence in spatial extremes. This work develops a statistical modeling framework which has flexible be... [▼ More](#)

Submitted 25 August, 2022; **originally announced** August 2022.

49. [arXiv:2208.09921](#) [[pdf](#)] [cs.LG](#)

Alexa, Predict My Flight Delay

Authors: [Sia Gholami](#), [Saba Khashe](#)

Abstract: ...no room for machine learning implementation. This research study develops a flight delay prediction system by analyzing data from domestic flights inside the United States of **America**. The proposed models learn about the factors that cause flight delays and cancellations and the link between departure and arrival delays. [▼ More](#)

Submitted 21 August, 2022; **originally announced** August 2022.

50. [arXiv:2208.06985](#) [[pdf](#), [other](#)] [eess.SY](#) [stat.AP](#)

How long is a resilience event in a transmission system?: Metrics and models driven by utility data

Authors: [Ian Dobson](#), [Svetlana Ekisheva](#)

Abstract: ...We introduce novel Poisson process models that describe how resilience events progress and verify that they are typical using extensive outage data collected across North **America**. Some usual duration metrics show impractically high statistical variability, and we recommend new duration metrics that perform better. [▼ More](#)

Submitted 14 August, 2022; **originally announced** August 2022.